

Application Serial No. 09/901,736  
Reply to Office Action of August 12, 2003

Patent  
Attorney Docket No. CU-2590

### REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Claims 1-6, 8, and 10-25 are pending in the present application before this amendment. Claims 26-53 have been withdrawn in response to the restriction requirement. By the present amendment, Claim 1 has been amended. No new matter has been added.

Claims 1-6, 8, and 10-25 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 4,536,218 (Ganho) in view of U.S. Patent Nos. 5,196,080 (Mizobuchi), 5,335,315 (Yoshida), and 4,124,947 (Kuhl). The "et al." suffix, which may appear after a reference name, is omitted in this paper

### REGARDING FUNCTIONAL LIMITATIONS

At the outset, Applicants respectfully disagree with the assertion in the Office Action page 3 that "an element [in a claim] 'being able to' perform a function" does not constitute a limitation in any patentable sense.

MPEP §2173.05(g) makes it very clear that:

"There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F2d 210, 169 USPQ 226 (CCPA 1971)."

In fact, the same section of MPEP requires that the functional claims should be treated as and be examined "just like any other limitation of the claim":

"A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill

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in the art in the context in which it is used." MPEP §2173.05(g).

The Court in *In re Venezia*, 189 USPQ 149, has held that a imitation that is capable of performing a function is an acceptable recitation.

"In a claim that was directed to a kit of component parts capable of being assembled, the Court held that limitations such as 'members adapted to be positioned' and 'portions ... being resiliently dilatable whereby said housing may be slidably positioned' serve to precisely define present structural attributes of interrelated component parts of the claimed assembly. *In re Venezia*, 530 F.2d 956, 189 USPQ 149 (CCPA 1976)." MPEP §2173.05(g).

In fact, the experience of the attorney of record of the present application in prosecuting patent claims in the past with the USPTO in general has been that the functional limitations containing the term "capable of" has always been considered a definite and non-negative limitation and has always been included in the subject matter of the substantive examination.

In view of the foregoing, Applicants are unclear as to how a functional limitation that is "being able to be thermally transferred to" is any different from the validly recognized functional limitation that is capable of being thermally transferred to.

Nevertheless, Claim 1 has been amended to delete "being able to" to eliminate any ambiguity regarding functional limitations and amended to recite as follows:

--wherein the pattern layer and the hiding layer are transferable to a print surface of the transfer-receiving material in presence of heat--

--wherein the pattern layer and the hiding layer are removable from the print surface by scratching--

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Therefore, the limitations now recited in Claim 1 as amended, is very germane to the scope and the subject matter of Claim 1 and are "nothing inherently wrong with defining" the claimed invention in "functional terms," since the "functional language [such as "capable of performing or being performed"] does not, in and of itself, render a claim improper." It is respectfully noted again that the pertinent patent laws and rules including MPEP require that the functional claims should be examined "just like any other limitation of the claim."

The Examiner cites *In re Hutchinson*, 69 USPQ 138; however, Applicants were unable to locate the reference using citation in the Office Action. Further, *In re Hutchinson* is cited or applied nowhere in MPEP for any discussions of patent law or procedure. Further, no copy of the decision has been provided to Applicants along with the Office Action. It is respectfully believed that, according to MPEP 707.05(a), copies of the cited references and/or materials are to be automatically furnished without charge to Applicants together with the Office Action.

For the reasons above, it is respectfully submitted that Claim 1, as amended, **does constitute** legitimate limitations in any patentable sense.

#### REGARDING ESTABLISHING PRIMA FACIE OBVIOUSNESS

It is well founded in the patent case law and consistently in MPEP that the Examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. MPEP §2142. There are three requirements to establish the prima facie obviousness. MPEP §2143.

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- (1) First, the prior art references must teach or suggest all the claim limitations. MPEP §2143.03.
- (2) Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP §2143.01.
- (3) Third, there must be a reasonable expectation of success. MPEP §2143.02.

As to Claim 1 and all other pending claims that depend from it, it is respectfully submitted that the prima facie burden of establishing the obviousness has not been met. It is respectfully submitted that none of the three requirements for prima facie obviousness is considered to be factually supported in the Office Action as this will be explained in detail in this paper. On this ground, withdrawal of the obviousness rejection and allowance of the claims are respectfully requested.

**I. Not All Limitations Of Claim 1 Are Taught Or Suggested In Ganho, Mizobuchi, Or Other Cited References, Either Individually Or Taken Together.**

As understood, the Office Action in rejecting Claim 1 relies mainly on Ganho and Mizobuchi to assert that combination of these references allegedly teaches the presently claimed multilayer transfer scratch layer comprising a hiding layer and a pattern layer that are transferable to a transfer-receiving material in presence of heat as this is claimed in Claim 1.

Applicants respectfully disagree and assert that, to the contrary, the above-claimed limitation is not taught or suggested anywhere in Ganho or Mizobuchi, whether they are taken individually or together.

It is respectfully noted that the preamble of Claim 1 has been amended to

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better clarify the thermal transfer characteristics of the claimed --transferable scratch layer--:

--A scratch layer transfer sheet having a transferable scratch layer that is transferable to a transfer-receiving material in presence of heat--

Further, Claim 1 as amended recites, inter alia, the following claim limitations related to the claimed --transferable scratch layer--:

--the transferable scratch layer having a multilayer structure disposed on surface of the substrate film, the transferable scratch layer comprising:

a pattern layer formed pattern-wise on selected portions of the first substrate surface;

a hiding layer formed on the on the portions of the pattern layer and on the substrate surface not covered by the portions of the pattern layer,

wherein the pattern layer and the hiding layer are transferable to a print surface of the transfer-receiving material in presence of heat with the hiding layer covering the print surface of the transfer-receiving material and the pattern layer visibly showing the pattern--

That is, Applicants are not just claiming a transferable scratch layer comprising a pattern layer and a hiding layer. Rather, the claimed limitation is the **transferable scratch layer comprising a pattern layer and a hiding layer that are transferable to a different target medium in presence of heat.**

In contradistinction, Ganho teaches a hiding coat that is not at all a part of a layer (such as the claimed transferable scratch layer) that is used to transfer the hiding coat to a different target medium in presence of heat. Ganho teaches the formulation of a hiding coat layer that is compatible with the varnish like protective

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layer that is coated on the printed material itself. Ganho further teaches the applying the hiding coat directly on the protective layer using a lithographic (or silk screen) method directly on the target medium. There is no teaching or suggestion in Ganho that the hiding coat is formed on an intermediate medium (such as the claimed transferable scratch layer) that is used to transfer the hiding coat to a different target medium (such as the claimed transfer-receiving material).

Mizobuchi fails to mention the claimed hiding layer at all.

At least one these grounds, Applicants respectfully submit that neither Ganho nor Mizobuchi, whether they are taken together or individually, teaches the claimed transferable scratch layer comprising a pattern layer and a hiding layer that are transferable to a different target medium in presence of heat.

**I. Ganho, Mizobuchi, And Other Cited References Are Improperly Combined As No Suggestion Or Motivation To Combine Are Adequately Supported In The References.**

According to MPEP §2143.01, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to combine the reference teaching.

The suggestion or motivation to combine references must come from the cited prior art references, either explicitly or implicitly. The mere fact that the teachings of the prior art can be modified or combined does not establish a motivation or suggestion to combine and make the resultant combination *prima facie* obvious. The prior art must suggest the desirability of the combination.

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MPEP §2143.01.

The Office Action combines the Ganho and Mizobuchi to mainly reject Claim 1; however, these references do not suggest the desirability of the combination.

Mizobuchi appears to describe merely a heat transfer sheet but fails to teach or suggest, *inter alia*, the claimed hiding layer that is formed as one of the layers in the transferable scratch layer, which can then be transferred to the surface of the transfer-receiving material in presence of heat.

As discussed above, there is no teaching or suggestion in Ganho about thermally transferring its hiding coat layer to a different print medium. There is no teaching or suggestion in Ganho that it is desirable to combine its teaching of the hiding coat layer for use in the lithography with the teaching of another reference such as Mizobuchi to show that the combination of these references teach the claimed invention of transferable scratch layer to be utilized in the field of thermography.

The Applicants respectfully submit that the conclusive statement of obviousness in the Office Action that the hiding coat of Ganho can be applied in a thermography setting is based on an impermissible presumption. Applicants' response to such a conclusive statement of obviousness is that the basis for improperly finding the presently claimed invention obvious appears to be the teaching found in this application, and not in the prior art. Thus, the obviousness rejection in the Office Action improperly relies on the impermissible hindsight reasoning, because the rejection would not be obvious absent Applicants'

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disclosure in this application that discloses the claimed hiding layer that is transferable to a different medium in presence of heat. (See 37 C.F.R. § 1.104(c)(2).)

According to MPEP §2142, the hindsight reasoning based on Applicants' own disclosure is not permitted. Knowledge of Applicants' disclosure must be set aside. The Examiner must step back in time to when the invention was unknown and just before it was made. Only the fact gleaned from the prior art may be used.

The one rationale provided in the Office Action for combining Ganho and Mizobuchi is that these references are of the "analogous art" since they are from the same field of endeavor, namely "coating technology." However, this is respectfully asserted to be incorrect and is an overly broad generalization of the technical fields.

According to MPEP §2141.01(a), any prior art reference, in order to be modified or combined with another prior art reference, must be "analogous" to the claimed invention. In order for a prior art reference to be "analogous" to the Applicants' claimed invention, the prior art reference must (1) be "in the field of Applicants' endeavor;" or (2) if, not, then it must be reasonably pertinent to the problem addressed. *In re Wood*, 599 F.2d 1032 (CCPA 1979).

First, Ganho (or other cited references) cannot be considered to be "in the same field of Applicants' endeavor," because the presently claimed invention is in the field of thermography for raised surface printing, whereas Ganho is in the field

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of lithography. Thermography and lithography are recognized and known by those skilled in the pertinent art to be very distinct and separate fields of printing technology.

The statement in the Office Action that Ganho and Mizobuchi are in the same field of endeavor because they relate to "coating technology" is not clearly understood. Applicants do not understand as to the exact meaning of the "coating technology." The term "coating technology" is unreasonably broad and vague for characterizing one field of the printing technology, whereas the thermography and lithography are well understood by those skilled in the printing art.

In *In re Clay*, 966 F.2d 656 (see MPEP §2141.01(a)), the Court held that a cited reference by the USPTO and the invention at issue are involved in different fields of endeavor although both are involved in the same petroleum technology. In MPEP §2141.01(a):

[The Court in *In re Clay*] found that the inventions involved in different fields of endeavor since the reference taught the use of the gel in a different structure for a different purpose under different temperature and pressure conditions, and since the application related to storage of liquid hydrocarbons rather than extraction of crude petroleum.

As *In re Clay* make it clear that just because two references may be considered to relate to a same technology such as the petroleum technology, the two references are not automatically considered to be in the same field of endeavor.

In the present case, the same reasoning of *In re Clay* is applicable such that the presently claimed invention and Ganho are not in the same field endeavor, as

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the presently claimed invention relates to thermography and Ganho relates to lithography, which are and should be considered in the different fields of printing technology. Just the reason that they can be broadly classified as being related to the printing technology is not enough to characterize them to be in the same field of endeavor. In fact, Ganho teaches the use of the hiding layer in a different structure for a different purpose under different conditions than the presently claimed invention. Ganho's structure is about applying a coat of scratchable hiding formulation for the purpose of directly applying on the varnish of the target print material using a lithographic process. This is a completely different structure, purpose, and conditions than the presently claimed invention relating to the thermography.

Second, Ganho is not analogous because Ganho is not reasonably pertinent to the problem with which Applicants of the present invention were concerned.

Also in MPEP 2141.01(a):

The court [in *In re Clay*] also found the reference was not reasonably pertinent to the problem with which the inventor was concerned because a person having ordinary skill in the art would not reasonably have expected to solve the problem of dead volume in tanks for refined petroleum by considering a reference dealing with plugging underground formation anomalies.

The teachings in Ganho are related to formulating a hiding coat that is, for example, mutually compatible with the protective coat and applying the hiding coat on the target print medium over the protective coat utilizing lithographic printing technology in a manner that the hiding coat is scratchable.

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In contradistinction, the presently claimed invention is concerned with solving the problems related to the conventional thermal transfer sheet such as surface irregularity and smoothness of the thermally transferred target print medium (see the Specification page 2, line 15 to page 3, line 1), unsatisfactory scratchability of the conventional hiding layer that was thermally transferred to the target print medium due to an "anchor effect" (see the Specification page 3, lines 2-5), and the "troublesome works" and high costs associated with the conventional thermal transfer sheets (see the Specification page 3, lines 2-5).

For the reasons above, Ganho is not reasonably pertinent to the problem with which Applicants of the presently claimed invention are concerned, and accordingly, it is respectfully submitted that Ganho cannot be considered to be analogous to the presently claimed invention.

It is emphasized again that according to MPEP it is only the teachings of the prior art, which must be combinable to establish the *prima facie* obviousness. Ganho provides no teaching at all that its hiding coat formulation is thermally transferable to a different medium. In absence of this teaching in Ganho, the Examiner's conclusion to the contrary that Ganho's hiding coat is thermally transferable is based on (1) the impermissible hindsight reasoning based Applicants' disclosure itself and (2) the incorrect reasoning that Ganho is analogous and/or reasonably pertinent to the teachings or problems solved by the presently claimed invention.

Similar arguments may be applicable to Mizobuchi and other cited references

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to show that they are not related to an analogous art and are not combinable, but detailed discussions are not made here in view of the above discussions showing that Ganho is not combinable for the purposes of establishing prima facie obviousness.

**III. There Is No Reasonable Expectation Of Success When The Teachings Of Ganho and Other References Are Combined.**

In absence of any teachings or suggestion in Ganho that its hiding coat formulation is thermally transferable reasonably leads to a conclusion that any attempts to thermally Ganho's hiding coat utilizing heat will inevitably fail. According to MPEP §2143.02, there must be a reasonable degree of predictability of success of the proposed modification or combination of the prior art in order to establish prima facie obviousness. This burden of proof is initially born by the Examiner, but the Office Action fails to provide this.

**CONCLUSION AS TO THE PRIMA FACIE OBVIOUSNESS**

For the reasons above, Applicants respectfully submit that the prima facie case of obviousness has not been established and accordingly and respectfully request withdrawal of the rejections based on 35 U.S.C. §103.

**ADDITIONAL ARGUMENTS AND REMARKS**

As understood, the Office Action suggests that Ganho teaches a hiding layer comprising waxes such as Carnuaba wax, a powdered metal such as powdered aluminum pigment, further comprising carbon black pigment, and resins (page 2, lines 5-4 from the bottom). As understood, the Office Action also suggests that

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Mizobuchi teaches a heat transfer sheet that comprises a base film of PET or paper and a hot melt ink layer composition thereon, in which the composition is made of carbon black, coloring agents, carnauba wax and aluminum powders that are compatible with an EVA resin (page 2, line 2 from the bottom to page 3, line 2). On this ground, the Office Action makes a conclusion that it would have been obvious to modify the hiding layer of Ganho to include it on a heat transfer sheet on a substrate film since Mizobuchi teaches both paper and polymer films of EVA are functional equivalents (page 3, lines 4-9); and using EVA is obvious to add since Mizobuchi teaches it is suitable for use in a transfer sheet (page 3, lines 9-10).

In response, Applicants respectfully assert again that Ganho only teaches coating an ink to form a hiding coat by lithography printing using a plate. Further, Mizobuchi does not teach or suggest the idea of forming a hiding layer by thermal transfer. Even if Ganho is considered to be a pertinent and combinable reference, one of ordinary skill in the cannot reasonably be able to modify the hiding coating of Ganho utilized for lithographic purposes for a thermal transfer in reference to Mizobuchi.

The Examiner asserts that carbon black, coloring agents, carnauba wax and aluminum powders are compatible with an EVA, however, such a teaching or suggestion is not found anywhere in Mizobuchi. Mizobuchi exemplifies various structural components used for a hot melt ink. Carbon black, coloring agents, carnauba wax and aluminum powders are only a part of the exemplification thereof. Mizobuchi exemplifies a number of resins other than EVA.

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Particularly, even if Mizobuchi is considered to teach EVA, EVA is suitable for use in a transfer sheet, and therefore it cannot be easily predicted from Mizobuchi that a hiding layer using EVA has good scratching performance.

Therefore, Mizobuchi does not teach any useful way to form a hot melt ink layer having composition suitable for a hiding layer by modifying a hiding coating ink mentioned in Ganho for lithographic purposes.

Therefore, it is impossible to modify a hiding coating of Ganho and impossible to use Ganho's hiding coating for thermal transfer and to form a hot melt ink layer having composition suitable for a hiding layer by modifying a hiding layer ink mentioned in Ganho.

Therefore, this is another reason for Applicants' disagreement with the Office Action, which incorrectly indicates that it would have been obvious to modify the hiding coating of Ganho in lithography to include it on a heat transfer sheet on a substrate film for thermography.

As to the multi-layer structure of a pattern layer having a pattern ratio between 5 and 85% per 2 cm<sup>2</sup> and a hiding layer, the Office Action allegedly asserts that (1) Ganho teaches about providing printing patterns on a hiding layer, which is equivalent to the present invention that subjects a pattern to be provided next to a substrate (page 2, lines 7-6 from the bottom); (2) Kuhl teaches suitable graphic patterns for imprinting substrates (page 4, line 3); and (3) Yoshida teaches methods for determining graphic area ratios (page 5, line 2).

Applicants respectfully disagree. Applicants find nowhere in Ganho the

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assertion in the Office Action that Ganho mentions about providing printing patterns on a hiding layer. Ganho discloses that printing is provided on an area where a message is provided in the second or third color, and then a hiding coating is printed thereon. That is, Ganho just teaches presence of printing patterns of other colors between the message and the hiding coating.

On the other hand, a thermal transfer sheet of Claim 1 of the present invention specifies multi-layer structure wherein a pattern layer and a hiding layer are arranged in the order that is closest to a substrate film. When the multi-layer structure is thermally transferred on the message to hide, the pattern layer is allocated on the hiding layer to have a pattern ratio between 5 and 85% per 2 cm<sup>2</sup>. In this manner, a pattern layer after transferr is present on an upper side of the hiding layer and it is not present between the hiding layer and the message, so that the pattern layer exhibits camouflage effect and hiding effect of a hiding layer improves.

A pattern layer formed in a thermal transfer sheet of Claim 1 of the present invention is not equivalent to the printing pattern taught by Ganho in view of positional relationship with a hiding layer and effectiveness of camouflage.

As stated in the description of the present invention, a hiding layer which hides a message by conducting thermal transfer has a particular problem that the hidden message is more likely to emerge through the hiding layer compared with a hiding layer formed by coating of ink. In order to solve the problem, it is possible to increase the hiding property by providing a pattern layer having a pattern ratio

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between 5 and 85% per 2 cm<sup>2</sup> on upper side of the hiding layer formed on the message by thermal transfer.

However, Ganho, Kuhl and Yoshida do not teach about the increase of hiding property caused by providing a pattern layer having a pattern ratio between 5 and 85% per 2 cm<sup>2</sup> on an upper side of the hiding layer formed on the message by thermal transfer.

Therefore, it is not easy to produce a thermally transferable multi-layer structure which can form a hiding layer and a pattern layer thereon by means of one thermal transfer process in the area where a message is applied based on Ganho, Kuhl and Yoshida.

As described above, we cannot agree to the Examiner's decision based on 35 U.S.C. 103(a) that a thermal transfer sheet specified in Claim 1 of the present invention is not patentable since it can be anticipated from Ganho and other cited documents mentioned above.

### CONCLUSION

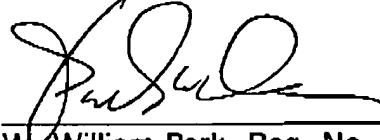
For the reasons set forth above, Applicants respectfully submit that Claims 1-6, 8, and 10-53, now pending in this application, are in condition for allowance over the cited references. This amendment is considered to be responsive to all points raised in the Office Action. Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit

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an indication of allowable subject matter. Should the Examiner have any remaining questions or concerns, the Examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,



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